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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,383	10/22/2001	Hong Kui Yang	30454-00297	7175

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EXAMINER	
SAMS, MATTHEW C	

ART UNIT	PAPER NUMBER
2643	

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/007,383	YANG, HONG KUI	
	Examiner	Art Unit	
	Matthew C. Sams	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This office action has been changed due to the amendment filed on 2/2/2005.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3-6, 8, 11, 12, 14-17, 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Esteves in view of Jalali (US-6,233,439 herein after, Jalali).

Regarding claim 1, Esteves teaches of a method to estimate the signal-to-noise ratio (herein after, SNR) of a forward traffic channel in a wireless communications system that uses a pilot channel. (Col. 6 lines 4-9) Esteves teaches that estimating the SNR for the pilot channel can be used to determine the SNR ratio of the forward traffic channel. (Col. 6 lines 4-23) Esteves differs from the claimed invention by not mentioning a two correction components, one fast and one slow. However, Jalali teaches a method where the adjustment is comprised of two components, one fast and one slow. (Col. 2 lines 18-60 & Col. 6 Claim 3) At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the estimation of SNR for the forward traffic control of Esteves with the method of using two adjustment

components of Jalali. One of ordinary skill in the art would have been motivated to do this since it makes it possible to get a more accurate estimation of the SNR on the traffic channel from the pilot channel. (Col. 2 lines 52-63)

Regarding claim 3, Jalali teaches a method where the adjustment is comprised of two components, one fast and one slow, where the fast component is updated more frequently than the slow component. (Col. 2 lines 18-60 & Col. 6 Claim 3)

Regarding claim 4, Jalali teaches a method where the slow correction component is updated at intervals of at least one frame. (Col. 6 lines 46-47)

Regarding claim 5, Jalali teaches a method where the fast correction component is updated at intervals of not more than four power control groups. (Col. 2 lines 21-27)

Regarding claim 6, Jalali teaches a method where the fast correction component is based on a power control signal sent to a base station. (Col. 2 lines 21-24 and Col. 6 claim 3)

Regarding claim 8, Jalali teaches a method where the slow correction component has a magnitude that exceeds a set threshold. (Col. 4 lines 56-59)

Regarding claim 11, Jalali, teaches a method that uses the estimate of the SNR for the forward traffic channel to perform power control. (Col. 3 lines 38-60)

Regarding claim 12, Esteves teaches an apparatus (Col. 6 lines 19-21) that uses the estimate of the SNR of a pilot channel to determine an estimate of the SNR for the forward traffic channel in a wireless communications system (Col. 6 lines 4-23). Esteves differs from the claimed invention by not mentioning a two correction components, one fast and one slow. However, Jalali teaches an adjustment that is

comprised of two components, one fast and one slow. (Col. 2 lines 18-60 & Col. 6 Claim 3) At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the estimation of SNR for the forward traffic control of Esteves with the two adjustment components of Jalali. One of ordinary skill in the art would have been motivated to do this since it makes it possible to get a more accurate estimation of the SNR on the traffic channel from the pilot channel. (Col. 2 lines 52-63)

Regarding claim 14, the limitations of the claim are rejected as being the same reason set forth in claim 3.

Regarding claim 15, the limitations of the claim are rejected as being the same reason set forth in claim 4.

Regarding claim 16, the limitations of the claim are rejected as being the same reason set forth in claim 5.

Regarding claim 17, the limitations of the claim are rejected as being the same reason set forth in claim 6.

Regarding claim 19, the limitations of the claim are rejected as being the same reason set forth in claim 8.

Regarding claim 22, the limitations of the claim are rejected as being the same reason set forth in claim 11.

4. Claims 2 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Esteves in view of Jalali as applied to claims 1 and 12 above, and further in view of Sindhushayana et al. (US-6,661,832 herein after, Sindhushayana).

Regarding claim 2, Esteves in view of Jalali teaches the limitations of claim 1. Esteves in view of Jalali differs from the claimed device in not specifically saying the adjustment is multiplied by the SNR of the pilot channel. However, Sindhushayana discloses a method and circuit (Fig. 3 [110]) for scaling the noise estimation of the pilot channel to obtain the noise estimation of the signal energy. (Col. 3 lines 17-28) At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the estimation of SNR for the forward traffic channel of Esteves in view of Jalali with an adjustment like that of Sindhushayana. One of ordinary skill in the art would have been motivated to do this since it makes it possible to scale the pilot channel SNR to obtain the SNR of the desired signal, the forward traffic channel. (Col. 3 lines 17-28)

Regarding claim 13, the limitations of the claim are rejected as being the same reason set forth in claim 2.

5. Claims 7, 9, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Esteves in view of Jalali as applied to claims 3 and 14 above, and further in view of Bottomley et al. (US-09/968433 herein after, Bottomley).

Regarding claim 7, Esteves in view of Jalali teaches the limitations of claim 3 above. Esteves in view of Jalali differ from the claimed invention in not specifically stating that there is an estimation of the ratio of traffic channel power to a second estimation of the traffic channel power based on the pilot channel power. However, Bottomley discloses a slow estimation of the ratio of traffic channel power to the pilot channel power. (Page 4 [0043]) Scaling the estimation of the pilot channel power does

not change the fact that the ratio is the traffic channel power to the pilot channel power. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the two correction components of Esteves in view of Jalali with that of the slow estimation of Bottomley. One of ordinary skill in the art would have been motivated to do this since the proportionality relationship between the pilot channel and the traffic channel is derived from estimates of the pilot channel. (Page 1 [0008])

Regarding claim 9, Esteves in view of Jalali teaches the limitations of claim 3 above. Esteves in view of Jalali differ from the claimed invention in not specifically stating that there is an estimation of the power control step size. However, Bottomley discloses an estimation of the power control step size. (Page 5 [0051] and Fig. 8 [820]) At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the two correction components of Esteves in view of Jalali with the power control step size estimation of Bottomley. One of ordinary skill in the art would have been motivated to do this since knowing the probability of the transmit power control values can maximum likelihood for future decisions. (Page 5 [0051])

Regarding claim 18, the limitations of the claim are rejected as being the same reason set forth in claim 7.

Regarding claim 20, the limitations of the claim are rejected as being the same reason set forth in claim 9.

6. Claims 10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Esteves in view of Jalali as applied to claims 1 and 12 above, and further in view of Chheda et al. (US-5,963,870 herein after, Chheda).

Regarding claim 10, Esteves in view of Jalali teaches the limitations of claim 1. Esteves in view of Jalali differ from the claimed invention by not specifically saying the SNR for the pilot channel is estimated by summing SNRs for each finger in a Rake receiver. However, Chheda discloses a method where ratios are combined in a Rake receiver. (Col. 6 lines 4-6) At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the estimation of SNR for the forward traffic control of Esteves in view of Jalali with a summing circuit like that of Chheda. One of ordinary skill in the art would have been motivated to do this since it makes it possible have each finger of the Rake receiver count towards estimating the SNR. (Col. 5 lines 66-67 and Col. 6 lines 1-3)

Regarding claim 21, the limitations of the claim are rejected as being the same reason set forth in claim 10.

Response to Arguments

7. Applicant's arguments filed 2/2/2005 have been fully considered but they are not persuasive.

Pertaining to the Applicant's statement "the first and second metrics are never the components of a single adjustment", claim 1 does not state a single adjustment, just that an adjustment comprises two components, one fast and one slow. Jalali teaches two power control command streams, the first is in response to the received frames and the second is in response to the power control bits transmitted from the base station. Power control bits are generated after every power control group is received. (Jalali

Col. 2 lines 25-31) Power control groups are 1.25 ms long and several power control groups together make up a frame. (Jalali Col. 2 lines 18-24) Therefore, a power control command stream in response to power control bits is updated more frequently than a power control command stream in response to the received frames. (Jalali Col. 6 lines 38-60)

8. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., $(1 - 2b_k)$ PCStep and X_1/X_2) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Regarding claim 12, the addition of the limitations of claim 1 to claim 12 does not make the claim allowable; therefore, the additional limitations are rejected as the same reason set forth above in claim 1.

Since no new arguments were brought about dependent claims 2-11 and 13-22, the original rejection stands in view of the additional explanation.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Sams whose telephone number is (571)272-8099. The examiner can normally be reached on M-F 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (571)272-7499. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

MCS
6/8/2005